Title (en)

GEOLOCATING A RADIO TRANSMITTER THROUGH PRECISE MODELLING OF IONOSPHERIC PROPAGATION

Title (de)

GEOLOKALISIERUNG EINES FUNKSENDERS DURCH GENAUE MODELLIERUNG DER IONOSPHÄRISCHEN AUSBREITUNG

Title (fr)

GÉOLOCALISATION D'UN ÉMETTEUR RADIO À L'AIDE D'UNE MODÉLISATION PRÉCISE DE LA PROPAGATION IONOSPHÉRIQUE

Publication

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Application

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Abstract (en)

[origin: WO2022023116A1] The invention relates to a method (100) for geolocating a transmitter (30) of a radio signal in the high-frequency (HF) range. A value of at least one parameter pertaining to the radio signal transmitted by the transmitter (30) is determined from measurements taken from the signal by one or more receivers (40a, 40b, 40c), at least one of which is on-board a satellite orbiting the Earth, the value of the parameter being dependent on the geographical position of the transmitter (30) at the time when the signal is transmitted. A propagation model of a signal in the ionosphere is generated based on modelling of an instantaneous state of the ionosphere. The propagation model associates a modelled value of the selected parameter with each of a plurality of candidate positions within a geographic region of interest. Finally, the geographical position of the transmitter (30) at the time when the signal is transmitted is estimated from the propagation model generated in this manner.

IPC 8 full level

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